losum. But in other respects the gametophyte and embryo of *B. virginianum* agrees with what is known of other Ophioglossaceæ. The author points out a similarity in form between the prothalli of *B. virginianum* and *Hycopodium annotinum*, while a likeness is also found in the same organs of *Ophioglossum pedunculosum* and *L. cernuuem* and *L. inundatum*, showing two types of the gametophyte in the Ophioglossaceæ as in the Lycopodineæ.

H. M. R.

Proteolytic Enzyme of Nepenthes.[1]—This paper is in continuation of one published by the same author in 1897. He concludes that the enzyme from the pitchers of Nepenthes is comparatively a very stable one. High temperatures and alkalis gradually lessen its activity, but do not completely destroy its power of digestion unless strong means are employed. The enzyme is of the nature of a tryptic ferment closely resembling that found in germinating seeds, like which it is active only in an acid medium. The author considers that he has fairly demonstrated the enzyme to arise from a zymogen in the gland cell of the pitcher.

H. M. R.

Nucleus of the Yeast Plant.[2]—According to this last account the cells of yeast certainly possess what the author terms a nuclear apparatus. This consists in the early stages of fermentation of what is called a homogeneous nucleolus in close contact with a vacuole containing a chromatin network. In later stages the "chromatin-vacuole" may have disappeared, the chromatin material being found as fine granules in the protoplasm. In the young stages there may be more than one "chromatin-vacuole," which later appear to fuse. The division which accompanies budding is direct, and takes place in the constriction between mother and daughter cell. If the author is properly understood, in spore formation the chromatin is absorbed by the nucleolus, to appear later in the form of fine grains (chromosomes?). The nucleolus elongates into a dumb-bell shape in the division preceding spore formation, and then constricts into two. Subsequent divisions forming four or even more new nucleoli may take place. A wall forms around these, and the spores are formed. The author does not demonstrate very definitely the relation of the nuclear apparatus of the spore to that of the vegetative cell. It

[1] Vines, S. H. The Proteolytic Enzyme of Nepenthes (II), *Ann. Bot.*, vol. xii (December, 1898), pp. 545–555.

[2] Wager, Harold. The Nucleus of the Yeast Plant, *Ann. Bot.*, vol. xii (December, 1898), pp. 499–537, Pls. XXIX, XXX.